

In Memoriam

ROBERT BERESFORD SEYMOUR SEWELL

Lieutenant-Colonel R. B. Seymour Sewell, C.I.E., M.A., sc.D. (Cantab.), M.R.C.S., L.R.C.P. (Eng.), I.M.S. (retd.), was born on 5th March 1880. He was educated in Weymouth College and Christ's College, Cambridge, and received his medical training in St. Bartholomew's Hospital, London. He was commissioned as a member of the Indian Medical Service in February 1908 and arrived in India in September 1908. He served as Medical Officer with the 34th Sikh Pioneers for two years when, on being selected for civilian assignment, he was appointed as officiating Surgeon Naturalist, Marine Survey of India, from 24th September 1910. In this post he was confirmed from 4th January 1911, and continued to hold it except for a short period when he officiated as the Professor of Biology, Medical College, Calcutta. In October 1914 he was recalled for military service. He served as Medical Officer with the 23rd Sikh Pioneers from 1914 to 1918 and was mentioned in Despatches for services rendered. After a short spell of furlough on medical grounds in 1918-19, he reverted to his substantive appointment as Surgeon Naturalist in April 1919 and, except for officiating as Superintendent, Zoological Survey of India, in 1919-20, continued to hold this post till he was appointed Director, Zoological Survey of India, on probation for one year from 27th July 1925. He was confirmed as the Director after the period of probation and continued to hold this post till he went on long leave preparatory to retirement in April 1933. In 1930 he served as President of the Committee constituted to review and report on the progress of the Indian Institute of Science, Bangalore. His retirement from the Indian Medical Service in 1935 coincided with his retirement from the civilian appointment. *En passant* it is of interest to note that out of some 25 years of service Col. Sewell worked as a medical officer (*sensu stricto*) for not more than six years and the remainder of his service was devoted to hydrographic, marine zoological, and anthropological studies.

During his leave preparatory to retirement he was selected to lead the John Murray Expedition to the Arabian Sea on board the Egyptian vessel *Mabahiss* for carrying out detailed hydrographic and biological investigations in addition to studying the deep-sea fauna of the area; its reports, under the title THE SCIENTIFIC REPORTS OF THE JOHN MURRAY EXPEDITION 1933-34, were issued under the editorship of Col. Sewell.

After his return from this expedition Col. Sewell settled down in Cambridge, and had a room in the Zoological Laboratory of the

University where he carried on active research till about a year before his death on 10th February 1964 at the age of eighty-three.

Under the title FAUNA OF BRITISH INDIA a series of zoological systematic monographs was prepared and published under the authority of the Secretary of State for India from 1880. In 1933, after Lt.-Col. John Stephenson died, Col. Sewell was appointed as the editor of this series. The Second World War brought to a stop all activities in this connection, but Col. Sewell continued actively with the preparatory work in the hope of resuming publication after the war. After Independence, however, the name of the series was changed to FAUNA OF INDIA and its editorship, except for the volumes already sanctioned, was transferred to the Director, Zoological Survey of India.

In 1945 Col. Sewell was invited by the Government of India, Ministry of Agriculture, to come to India and make recommendations for the reorganization and expansion of the Zoological Survey of India. He came towards the end of 1945, and submitted a detailed memorandum dealing with the future and all aspects of the work of the Survey. At the request of the same Ministry he also prepared a detailed memorandum on the proposed Fishery Research Institute in the country.

His scientific work covered a very wide field, from Physical Anthropology to Zoological taxonomic work on various groups, Marine Biology, and Oceanography. His outstanding contributions in the various fields are briefly reviewed in the following paragraphs.

In Physical Anthropology, he in collaboration with Dr. B. S. Guha published valuable memoirs on prehistoric human remains from (i) Nal excavated by H. Hargreaves (*Mem. Arch. Surv. of India* No. 35, 1929); (ii) Mekran remains recovered by Sir Aurel Stein (*idem* No. 43, 1931); and (iii) Mohenjo-daro remains excavated during 1923-27 (MOHENJODARU AND THE INDUS CIVILIZATION 2, 1931). As a result of these studies the authors concluded that during Chalcolithic times in the Indus Valley and in Baluchistan the chief racial types consisted of 'the Mediterranean strain, a large-brained long-headed type of possible Proto-Nordic affinities' similar to those existing at Kish and Al'Ubad in pre-Sargonic Sumeria. The origin of man and the population of India in the past and future formed the subject of Col. Sewell's address as President of the Anthropological Section of the 16th Session of the Indian Science Congress at Madras in 1929. In this address he put forward the hypothesis that the causative factor of brachycephaly in man was probably his 'living in high altitudes in the formative period of man's life-history'. A further contribution along the same lines was his address as the General President of the 18th Session of the Indian Science Congress at Nagpur in 1931, in which he discussed certain modifications of bodily structures in so far as these can be regarded as evolutionary problems.

Here may also be mentioned Col. Sewell's detailed report on the pre-historic animal remains excavated at Mohenjo-daro during 1923-27 (MOHENJO-DARU AND THE INDUS CIVILIZATION 2, Ch. 31, 1931).

Since 1884, investigations on the deep-sea fauna of the Indian Ocean became possible as a result of the sounding and dredging gear which had been used by the *Challenger* expedition being presented for work by R.I.M.S.S. *Investigator*, and such investigations were carried out more or less regularly by the successive Surgeon Naturalists attached to this vessel. As dredging and trawling constituted only a subsidiary function of the Survey vessel, and as such occupied only an insignificant part of the Surgeon Naturalist's time, a major change in the programme of work was decided upon. Consequently a systematic survey of the hydrographic conditions and of the planktonic organisms, especially surface-living Copepods, was started by Captain Sewell (as he then was) from the Survey Season of 1910-11, and this was continued with interruptions from time to time till his relinquishment of that office in 1925. During the first season of his holding this office a mid-water trawl was designed and constructed in the R.I.M. Dockyard at Bombay, which enabled detailed work to be undertaken on the mid-water fauna of the area—these lines of work had hitherto been neglected.

The results of the geographical and oceanographical researches carried out by Col. Sewell were published in a series of papers during 1925-29 (*Mem. As. Soc. Bengal* 9). This work constituted a detailed study of the conditions under which the marine fauna exist in the Indian Ocean. 'It deals mainly with the geography, the nature of the sea-bed and its deposits, the temperature and salinity of the coastal and surface waters, of the Andaman sea in relation to the adjacent waters like the Bay of Bengal and the Laccadive sea, and the marine meteorology of the Indian seas as a whole. It shows conclusively that the physical conditions of the sea are in an almost continuous state of flux due to influences both within and without its geographical limits, and must be effecting profound changes in the character of the fauna, and that the study of the physical conditions is an integral part of the bionomics of any given arm of the ocean or the sea whatever its size or geographical position.' An offshoot of the same type of work was his joint paper with Dr. N. Annandale on 'The Hydrography and Invertebrate Fauna of the Rambha Bay of Chilka Lake on the Orissa Coast' (*Mem. Ind. Mus.* 5, 1922). In an abnormal year such as the one during which the investigations were carried out by the authors, it was found that in this lake of undoubted marine origin a few freshwater forms had established themselves, while the estuarine species were similar to those of the Gangetic delta and the lagoons of the Indian coasts. The occurrence of the truly marine species was only seasonal. 'The most striking features of the fauna of the lake are the abundance of individuals and paucity of species,

and the extraordinary adaptability of the permanent residents to the physical changes in their environment.'

Research on the surface-living Copepods was begun with the Survey Season of 1910-11, and the first two papers on the surface-living Copepods of the Bay of Bengal (pts. i, ii) and of the Gulf of Mannar were published in 1912 (*Rec. Ind. Mus.* 7) and in 1914 (*Spolia Zeylanica* 9). A comprehensive account of the Copepoda of Chilka Lake was published in 1924 (*Mem. Ind. Mus.* 5), while the detailed monographic work on the Copepods of the Indian Seas was published during 1929-32 (*Mem. Ind. Mus.* 10). As a result of these detailed studies he concluded 'that much of the apparent difference between surface and littoral Copepod fauna of the Indian and Atlantic oceans was due to the lack of knowledge, and such differences as exist were to be attributed to the presence in the latter of indigenous forms evolved in that area and to the total absence of connecting passages between the tropical or temperate regions of the Atlantic, the Pacific and the Indian oceans.' A further continuation of the same work was the systematic account of the Copepods collected by the John Murray Expedition (THE SCIENTIFIC REPORTS OF THE JOHN MURRAY EXPEDITION 1933-34 8, 1947), and on the embionts and parasites of the Copepods of the same area in 1951((*idem* 9).

In 1924 he published an interesting paper on the growth of some marine molluscs, such as *Littorina* (*Rec. Ind. Mus.* 26), and in 1926 was published a detailed account of the Salps of the Bay of Bengal and the Arabian Sea (*idem* 28). The same year appeared an interesting account of the variations in the external characters of the several so-called species of the barnacle genus *Lithotrya*, in which he showed that all these species were only stages in growth of, or varieties and life phases of, a single species *Lithotrya nicobarica* (*idem* 28).

In connection with the possible introduction and spread of Schistosomiasis in India from war theatres in the Middle-and Far-East, he carried out an extensive programme of research on the Cerceriae found in Indian freshwater molluscs. His comprehensive monograph on the subject was published in 1922 (*Ind. Journ. Med. Res.* 10, Supplement), while as a result of his detailed studies of the excretory system in the cercariae he 'advanced the view that furcocercous cercariae were of polyphyletic origin, and the evolution of the Monostome by the suppression of the acetabulum has occurred on more than one occasion and in different lines of evolution' (*Rec. Ind. Mus.* 32, 1930).

Before being forced by ill health to stop active work in 1963, Col. Sewell was engaged in preparing a volume on Indian Copepoda for the FAUNA OF INDIA series.

Col. Sewell was connected with various Scientific Societies, and served as the Vice-President and President of the Asiatic Society, Calcutta, the Ray Society, London, and the Linnean Society of London. He was a

Fellow of the Asiatic Society, Calcutta, National Institute of Sciences of India, Linnean Society of London, Zoological Society, London, and was elected as a Fellow of the Royal Society, London, in 1934. He was also a Corresponding Member of the Academy of Natural Sciences, Philadelphia, U.S.A.

His services were recognized by the Government of India by the award of the title of C.I.E. in 1933, and he was awarded the Barclay Memorial Medal by the Asiatic Society, Calcutta, in 1932.

Col. Sewell was a Life Member of the Bombay Natural History Society, having joined as a member on 8th October 1910.

Col. Sewell devoted over half a century of his life to advancing our knowledge of Indian Zoology, Oceanography, and Physical Anthropology, and he will be greatly missed by his large circle of friends and admirers.

BAINI PRASHAD